

Date: Thu, 1 Jul 93 16:06:08 PDT  
From: Info-Hams Mailing List and Newsgroup <info-hams@ucsd.edu>  
Errors-To: Info-Hams-Errors@UCSD.Edu  
Reply-To: Info-Hams@UCSD.Edu  
Precedence: Bulk  
Subject: Info-Hams Digest V93 #809  
To: Info-Hams

Info-Hams Digest                      Thu, 1 Jul 93                      Volume 93 : Issue 809

Today's Topics:

    Help needed to make microstrip structures (2 msgs)  
        How is Collins equipment ?  
    Mail Returned - Invalid NWD1 mail ID  
    OPDX Bulletin #114 - June 14, 1993  
        QST  
        Questions about wire.  
    Repeater coordination, complaints?  
    Weekly Solar Terrestrial Forecast & Review for 02 July

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>  
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>  
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available  
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text  
herein consists of personal comments and does not represent the official  
policies or positions of any party. Your mileage may vary. So there.

-----

Date: 1 Jul 93 21:36:05 GMT  
From: ogicse!uwm.edu!math.ohio-state.edu!darwin.sura.net!gatech!news.byu.edu!  
news@network.UCSD.EDU  
Subject: Help needed to make microstrip structures  
To: info-hams@ucsd.edu

Has anyone had success in building 50 ohm microstrip lines. I have  
tried several times, but without success. One of the problems I have  
had is that different reference books give different equations and  
different widths for the copper traces.

Richard

-----

Date: Thu, 1 Jul 1993 22:45:59 GMT

From: dog.ee.lbl.gov!overload.lbl.gov!agate!howland.reston.ans.net!usc!sdd.hp.com!  
col.hp.com!news.dtc.hp.com!srngenprp!glenne@network.UCSD.EDU

Subject: Help needed to make microstrip structures

To: info-hams@ucsd.edu

Richard B. Christensen (richard@alaska.et.byu.edu) wrote:

: Has anyone had success in building 50 ohm microstrip lines. I have  
: tried several times, but without success. One of the problems I have  
: had is that different reference books give different equations and  
: different widths for the copper traces.

Richard

Try .110" wide traces on 1/16" standard fiberglass/epoxy board material. This should get you pretty close to 50 ohms. Different board cladding thickness, dielectric thickness and dielectric constant will give differing results. That is probably the discrepancy you are seeing in the references.

Many references calculate microstrip impedances from equations attributed to Wheeler and I'd think that as long as you're comparing apples and apples that they should be quite close.

In any case, you should be able to make microstrip which is closer to 50 ohms than most components and devices readily found in the ham shack.

73

Glenn Elmore n6gn

N6GN @ K3MC

amateur IP: glenn@SantaRosa.ampr.org

Internet: glenne@sr.hp.com

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Date: 1 Jul 93 15:30:21 est

From: pacbell.com!UB.com!wetware!spunky.RedBrick.COM!psinntp!psinntp!  
arrrl.org@decwrl.dec.com

Subject: How is Collins equipment ?

To: info-hams@ucsd.edu

In rec.radio.amateur.misc, dbraun@ilx049.intel.com (Doug Braun) writes:

>Well my R-5000 doesn't work exactly that way (using the same oscillator  
>to mix up and down again). In the R-5000, both the first IF oscillator  
>and the BFO are synthesized. The IF shift knob is a pot that generates

>a voltage that goes to an ADC on the processor board. Operating the  
>knob causes the processor to simultaneously adjust both oscillators  
>in step with each other. Thus, it really works more like the old  
>mechanically coupled systems.

Thanks! Yes, that's more or less the Collins system redone;  
think Kenwood brought it in the TS-820. Fun if you twist the IF  
Shift knob \*really fast\* -- you can hear a little pitch wobble  
because time delay through the intervening filtering causes the  
shifted signal to arrive at the second-osc-driven mixer a bit  
late. Result: \*Momentary\* pitch shift, the magnitude of which  
varies directly with how fast you slew the oscillator(s).

Similar effect makes a "whoop" in old single-crystal-gate-  
filtered receivers when you twist the BFO knob rapidly. BFO  
getting into the IF front end gets delayed in the crystal and  
beats with the nondelayed signal at the IF output. The faster you  
turn it, the higher-pitch the whoop.

Anyway, I didn't intend to cover all the IF-shift permutations --  
I just wanted to gloss a few different approaches.

Regards/WJ1Z

David Newkirk, Senior Asst Tech Editor		voice: 203-666-1541 X280
American Radio Relay League		fax: 203-665-7531
225 Main St, Newington CT 06111 USA		net: dnewkirk@arrl.org

-----  
Date: Thu, 1 Jul 1993 19:20:34 +0000  
From: pravda.sdsc.edu!news.cerf.net!usc!howland.reston.ans.net!agate!doc.ic.ac.uk!  
uknet!bnr.co.uk!demon!llondel.demon.co.uk!dave@network.UCSD.EDU  
Subject: Mail Returned - Invalid NWD1 mail ID  
To: info-hams@ucsd.edu

In article <m0oBQD4-0000FnC@adi\_email.analog.com> MAILER-DAEMON@analog.COM writes:  
> -----> Document Follows <-----  
>

Now this is an interesting thread.... almost as good as a no-code/code  
debate :-)

Dave

\*\*\*\*\*  
\* G4WRW @ GB7WRW.#41.GBR.EU AX25 \* You think \*you\* have problems? \*  
\* dave@llondel.demon.co.uk Internet \* What do you do if you \*are\* \*

\* g4wrw@g4wrw.ampr.org          Amprnet          \*          a manically depressed robot??          \*  
\*\*\*\*\*

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Date: Thu, 1 Jul 1993 10:48:20 MDT  
From: elroy.jpl.nasa.gov!swrinde!cs.utexas.edu!wupost!gumby!destroyer!cs.ubc.ca!  
unixg.ubc.ca!kakwa.ucs.ualberta.ca!alberta!adec23!ve6mgs!usenet@ames.arpa  
Subject: OPDX Bulletin #114 - June 14, 1993  
To: info-hams@ucsd.edu

The Ohio/Penn Dx PacketCluster  
DX Bulletin No. 115  
BID: \$OPDX.115  
June 14, 1993  
Editor Tedd Mirgliotta, KB8NW  
Provided by BARF-80 BBS Cleveland, Ohio  
Online at 216-237-8208 14400/9600/2400/1200/300 8/N/1

Thanks to the Northern Ohio Amateur Radio Society, Northern Ohio DX Association, Ohio/Penn PacketCluster Network, DXMB, DF4RD, DF8WS, 9Y4DG, NA2M, W2JGR, K4CEF & Southeastern Cluster Group, N8AC, W8BE, K8KJN, NW8F, N8HTT, KF8VW, WG9B and K0IR for the following DX information.

3V, DJERBA ISLAND (NEW IOTA). John, WG9B, talked to Paul, ID1X (a.k.a I1RBJ) and Paul has stated he will activate a new IOTA by going to Djerba Island (this will count for Tunisia). He said that his tentative callsign will be 3V/I1RBJ, however, he has applied for a regular 3V callsign. Paul states that this will be the first time that the island has been active and that he is still waiting for an IOTA number. He plans to arrive on the island on July 1st or 2nd and stay until the 8th. Paul will be using a TS-50 into a vertical antenna. QSL via I1RBJ.

3Y, PETER I ISLAND (Update). The following update is an excerpt from Ralph, K0IR, team leader of the 1994 DXpedition to Peter I Island:

The Peter I DXpedition team will sail from Port Stanley in the Falkland Islands on Jan. 23, 1994. Their vessel will be an icebreaker that can steam through pack ice 8 feet thick. There will be two helicopters aboard, and it is fully equipped with satellite navigation and satellite derived ice chart recorders. Helicopter landing on Peter I is still scheduled for Feb. 1, 1994.

The four HF transceivers and amplifiers will be augmented by the following Cushcraft antennas: two A3S tribanders, one A3WS WARC beam, one 15-3CD monobander, one 20-3CD monobander, and one 40-2CD monobander. Vertical antennas for 160, 80, and 40 meters will also be in use.

The operation is still scheduled for 16 days to allow everyone an opportunity for a QSO despite conditions. SSB, CW, and RTTY will be utilized.

There is a full complement of operators, however, two are still working out their personal schedules. Alternates are available and more will be considered. The full team will be announced when everyone's schedule is a 100% go. Contributions for this expensive endeavor can be sent to AA6BB.

5A, LIBYA. It has been reported that Romeo has been in Sofia this week to pick up some items that INDEXA has provided. His expected route to 5A-land is from Sofia to Turkey, to Egypt, and then to Libya. It was reported Saturday (12/Jun) that Murphy, W4WMQ, talked to Romeo by phone in Sofia. Romeo told him that the 5A operation will take place in 3 to 5 days and that everything has been worked out. There is still no mention at this point of any other operators, or their involvement.

6W1, SENEGAL and J5, GUINEA-BISSAU. Mark, J5UAI, who is now active from J5-land will be active from 6W1-land for 5 weeks starting July 2nd and then return to J5 August 10th. Meanwhile, Mark has gone QRT from RTTY as of June 9th because he had to return a borrowed lap-top from a fellow embassy worker. Is there a club that will loan Mark a lap-top computer until he QRTs in July 1995? QSL via NW8F.

BV, PRATAS. A dxpedition is being planned to Pratas Island from June 25 to July 5. Flights to and from the island take place on the 5th, 15th and 25th of each month. Tom, BV4OB, was mentioned to be one of the 12 operators and it was also reported that there are three position still open to participate in the DXpedition. Martti Laine, OH2BH, has been invited along with several other stateside hams. The call sign that will be used is BV9P. They will be active on 10-40 meters. The modes to be used will be CW, SSB, RTTY, SSTV and OSCAR 13 Mode B. Currently there is an application pending for new country status for consideration by the DXAC.

C5, The GAMBIA. Remember to look for Falk, DL7UTA (a new NODXA member), and Roy, DL7UBA, from here starting June 16 for two full weeks. C56/DL7UTA will be used on SSB and C56/DL7UBA will be used on CW.

CY9, ST. PAUL ISLAND (UPDATE & MORE!). Art, WA2UJH, will be joining Duane, WV2B, on St. Paul as reported last week (OPDX.114). Art will be active on CW and RTTY on all bands, including the WARC bands. QSL only CY9/WA2UJH to NW8F.

It was reported on the W2MIG net that CY9CWI will be active August 14 thru 18 on CW, SSB, and RTTY. There will 7-8 ops.

E35X, ERITREA. The operators shut down E35X on June 9th at 2353z. It was reported that part of the equipment that was used during the operation, was moved to a government building (actually a technical college). This will be the site of Eritrea's first club station. The removal of the Mosley TA33M beam (which was part of the promised club station) during

the final days of E35X, left the operation with only a dipole and a vertical antenna. LA6VM has reported that INDEXA shirts and flag were presented at a dinner and gala affair as part of a "THANKS" for the station. As of yet we do not know the call sign of the club station. It was mentioned on one of the DX nets that you can put all QSLs in one envelope as long as there is sufficient postage for the return postage.

There will be another Norwegian team active from here towards the end of the month. No call sign was given.

ZS1, PENGUIN ISLAND. Gunter/DK2WH, Peter/DJ2ZS, Roland/DJ4LK and James/DJ0WQ will be active July 28 thru August 24. Activity will be 10-160 meters. They will be taking with them 2 complete stations, with beams, ground planes and amplifiers. All QSOs will automatically be sent to the bureau, but if you wish to QSL direct, PLEASE enclose sufficient postage for return mail. Also, Peter and James may operate from ZS9.

ZS8, MARION ISLAND. K8KJN reports that ZS9A, Ian, talks to Christy, ZS8MI regularly and that ZS8MI is not using normal U.S. SSB frequencies. ZS8MI typically operates around 14115 with the Canadians. ZS9A has been encouraging ZS8MI to set up schedules for U.S. QSOs. It seems that the encouragement has paid off. Paul, W8GIO, announced Saturday (12/Jun) the following operating schedule: 14277 at 0500z and 21393 or 28480 kHz at 1600z (Time could actually be 0300z and 1400z.). Christy is scheduled to be there for 18 months. QSL via ZS1CDK, not ZS5UND. It was requested that 2 green stamps and SAE be sent due to the recent postage increase in South Africa. QSL Route: Christy de Kock, 10 Mark Ottor Ave, Unipark, Stellenbosch, 7600 RSA.

DX TIDBITS..... Marko, OH6DO, reports that 9M0S made about 37K to 38K QSOs. It was also mentioned on one of the DX nets that they will be using a computer label on the 9M0S cards. The labels will be good for up to 3 contacts..... The 1993 Amateur Radio Awareness Week in 9Y4 will be held from June 13 to June 20. The Trinidad and Tobago Amateur Radio Society (TTARS) will be having an AMATEUR RADIO AWARENESS WEEK so as to sensitize the public about amateur radio. This celebrates the sixtieth anniversary of the Society. From 0000z on Saturday, June 19, to 2200z Sunday, June 20, there will be a special event station, 9Z4LX on all bands and on all modes. 9Z4LX will be QRV on all DX portions of the bands. Dev, 9Y4DG, will be operating on AO-13 (attitude and magnetorquing permitting). All QSLs for 9Z4LX and 9Y4DG go to WA2NHA... .... The second annual New Orleans International DX Convention will be held on Friday, August 27th through Sunday, August 29th, in the heart of the French Quarter in New Orleans, Louisiana. It will be DX and only DX with presentations by participants in several recent major DXepiditions. No dealers and no flea tables.....

FAX YOUR DX INFORMATION NOW! Faxing is available Monday/Wednesday/Friday from 0430 to 2330z only. The number is 216-237-8208 and operates Group 3

FAX Service Class 2 (EIA/TIA 592) only. Use only the dates and times specified. FAX Service Class 1 (EIA/TIA 578) is available upon request by leaving a message to the Sysop on BARF-80 BBS. The FAX card is sharing the same phone line as BARF-80 BBS using a data/fax/phone switch.

Excerpts and distribution of The OPDX Bulletin are granted as long as OPDX/BARF80 receive credit. To contribute DX info, call BARF-80 BBS online at 216-237-8208 14400/9600/2400/1200/300 and leave a message with the Sysop or send InterNet Mail to: aq474@cleveland.freenet.edu or send BitNet Mail to: aq474@cleveland.freenet@cunyvms or send PRODIGY Mail to: DFJH48A or send a message via packet to KB8NW @ WA8BXN.OH.USA.NA

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James J. Reisert	Internet: reisert@mast.enet.dec.com
Digital Equipment Corp.	UUCP: ...decwrl!mast.enet.dec.com!reisert
146 Main Street - ML03-6/C9	Voice: 508-493-5747
Maynard, MA 01754	FAX: 508-493-0395

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Date: 1 Jul 1993 20:26:42 GMT  
From: topaz.bds.com!topaz.bds.com!ron@uunet.uu.net  
Subject: QST  
To: info-hams@ucsd.edu

You missed one. If you don't find it, let me know. Due to antiquated ideas as to what constitutes a family, I get three copies of QST delivered to my house every month. One goes on the shelf, and the other two get thrown in a pile.

-Ron

-----  
Date: Thu, 1 Jul 1993 20:56:18 GMT  
From: pravda.sdsc.edu!news.cerf.net!usc!howland.reston.ans.net!noc.near.net!  
squam.banyan.com!banyan.com!dts@network.UCSD.EDU  
Subject: Questions about wire.  
To: info-hams@ucsd.edu

In article <66NX6B1w165w@jackatak.raider.net>, martinbw@jackatak.raider.net (Bruce Martin) writes:

|> I am trying to find some wire to power the radios and other equipment in  
|> my car. What I am looking for has 2 stranded conductors with a black and  
|> red insulation so that I only have to deal with one wire as I am  
|> installing it and I can tell which wire goes where (Red to + and black  
|> to - side of the battery) I am looking for this stuff in 12 gauge to  
|> handle 15 amps @ ~13.8 volts and in 8 gauge to handle 50 amps+ @~13.8

|> volts. I have looked all over Nashville, TN from Home Depot to Radio  
|> Shack to the little electronic Junk store called Javanco (really a nice  
|> place to find odd little electronic stuff). I am looking for realativly  
|> small amounts of this stuff (20-30 ft.) but any help would be  
|> appreciated.

Try the Crutchfield Audio catalog. Those people who turn their vehicles into  
mobile loudspeakers need to draw lots of power for all those audio amplifiers.  
They also have monster sized fuses and such.

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Daniel Senie                      Internet:        dts@questar.banyan.com  
Banyan Systems, Inc.            Compuserve:    74176,1347  
508-898-1188                    Packet Radio: N1JEB@WA1PHY.MA  
-----

Date: Thu, 1 Jul 1993 20:47:31 GMT  
From: usc!howland.reston.ans.net!noc.near.net!squam.banyan.com!banyan.com!  
dts@network.UCSD.EDU  
Subject: Repeater coordination, complaints?  
To: info-hams@ucsd.edu

In article <20scrhINN8f5@network.ucsd.edu>, brian@nothing.ucsd.edu (Brian Kantor)  
writes:

|> Install tone encode in your repeater transmitter and tone decode in all  
|> your user stations.  
|>  
|> Band crowding and frequency re-use is a fact of life. Learn to live  
|> with it.  
|> - Brian

Using tone decode is fine IF the repeater you are near actually can capture your  
radio. That's not necessarily the case here. Re-use and abuse are separate issues.

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Daniel Senie                      Internet:        dts@questar.banyan.com  
Banyan Systems, Inc.            Compuserve:    74176,1347  
508-898-1188                    Packet Radio: N1JEB@WA1PHY.MA  
-----

Date: 1 Jul 93 21:24:26 GMT  
From: news-mail-gateway@ucsd.edu  
Subject: Weekly Solar Terrestrial Forecast & Review for 02 July

To: info-hams@ucsd.edu

--- SOLAR TERRESTRIAL FORECAST AND REVIEW ---  
July 02 to July 11, 1993

Report Released by Solar Terrestrial Dispatch  
P.O. Box 357, Stirling, Alberta, Canada  
T0K 2E0  
Accessible BBS System: (403) 756-3008

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SOLAR AND GEOPHYSICAL ACTIVITY FORECASTS AT A GLANCE

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10-DAY SOLAR/RADIO/MAGNETIC/AURORAL ACTIVITY OUTLOOK

	10.7 cm	HF Propagation +/- CON							SID				AU.BKSR DX				Mag	Aurora			
	SolrFlx	LO	MI	HI	PO	SWF	%MUF	%	ENH	LO	MI	HI	LO	MI	HI	%	K	Ap	LO	MI	HI
--	-----	-----							-----				-----				----	-----			
02	105	G	F	P	P	40	-05	65	40	NA	NA	NA	02	25	30	30	5	25	NV	LO	MO
03	100	G	G	P	P	40	-05	65	40	NA	NA	NA	05	30	40	30	4	22	NV	LO	MO
04	100	G	G	F	F	40	-05	65	40	NA	NA	NA	02	25	30	30	4	20	NV	LO	MO
05	100	VG	G	F	F	40	00	65	40	NA	NA	NA	02	15	25	35	3	15	NV	NV	LO
06	100	VG	G	F	F	40	00	65	40	NA	NA	NA	02	10	20	35	3	12	NV	NV	LO
07	095	VG	G	F	F	40	00	65	40	NA	NA	NA	02	05	15	35	2	10	NV	NV	LO
08	095	G	G	F	F	35	-05	65	35	NA	NA	NA	02	05	15	30	2	10	NV	NV	LO
09	090	G	G	F	F	20	-05	65	20	NA	NA	NA	02	05	15	30	2	10	NV	NV	LO
10	087	G	G	F	F	10	-05	65	10	NA	NA	NA	02	05	15	30	2	10	NV	NV	LO
11	087	G	G	F	F	10	-05	65	10	NA	NA	NA	02	05	15	30	2	10	NV	NV	LO

DEFINITIONS:

Date (day only)

10.7 cm SOLAR radio FLUX forecast

HF Propagation Conditions for LOW, MIDDLE, HIGH, and POLAR areas (see below)

HF Short Wave Fade Probability (in %)

HF Maximum Usable Frequency in +/- percent above seasonal normals.

HF Prediction CONFIDENCE Level (in %)

VHF Sudden Ionospheric ENHancement Probs (in %), weighted for low-mid lats

PROBability of "s"poradic E (Es) during the UT day for low, mid and high lats

VHF AUroral BackScatteR Probs (in %) for LOW, MIDDLE and HIGH Latitudes

VHF Overall Global DX Potential (in %) - weighted for Low and Middle latitudes

Geomagnetic Activity Kp Index (peak value - see below)

GeoMAGnetic Activity Ap Index (peak value - see below)

AURORAL Activity for LOW, MIDDLE and HIGH Latitudes (see below)

HF Prop. Quality rated as: EG=Extremely Good, VG=Very Good, G=Good, F=Fair,

P=Poor, VP=Very Poor, EP=Extremely Poor.

Probability of Sporadic E (Es) for the various latitudes is given in percent.

Kp Planetary Index rated: 0=V.Quiet, 1=Quiet, 2=Unstld, 3=Active, 4=V.Active, 5=Minor Storm, 6=Major Storm, 7=Maj-Sev Storm, 8=Severe Storm, 9=V.Severe.

Ap Planetary Index rated: 0-7=Quiet, 8-16=Unstld, 17-29=Active, 30-49=Minor Storm, 50-99=Major Storm, Severe Storm >=100.

Auroral Activity rated: NV=Not Visible, L0=Low, M0=Moderate, HI=High, VH=Very High.

# PEAK PLANETARY 10-DAY GEOMAGNETIC ACTIVITY OUTLOOK (02 JUL - 11 JUL)

EXTREMELY SEVERE												HIGH
VERY SEVERE STORM												HIGH
SEVERE STORM												MODERATE
MAJOR STORM												LOW - MOD.
MINOR STORM	*											LOW
VERY ACTIVE	***	**	**	*								NONE
ACTIVE	***	***	***	***	**	*						NONE
UNSETTLED	***	***	***	***	***	***	***	***	***	***	***	NONE
QUIET	***	***	***	***	***	***	***	***	***	***	***	NONE
VERY QUIET	***	***	***	***	***	***	***	***	***	***	***	NONE
-----												
Geomagnetic Field	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun		Anomaly
Conditions	Given in 8-hour UT intervals											Intensity

CONFIDENCE LEVEL: 60%

## NOTES:

Predicted geomagnetic activity is based heavily on recurrent phenomena. Transient energetic solar events cannot be predicted reliably over periods in excess of several days. Hence, there may be some deviations from the predictions due to the unpredictable transient solar component.

## 60-DAY GRAPHICAL ANALYSIS OF GEOMAGNETIC ACTIVITY

54	J	
51	J	
49	J	
46	J	M
43	J	M
40	J	M
38	MJ	MM
35	MMJ	MM
32	MMJ	MM

30		MMJ				MM				
27		MMJ				MM				
24		MMJ				MM		A		
22		MMJ				MM	A	A		
19		MMJ		A		MM	A	A		
16		AMMJ	A		AA	AMMAA	A	AA		
13		AMMJ	U	A	A	AA	AMMAAU	A	UU	
11		AMMJ	U	AUUA	U	AAU	AMMAAU	A	UUU	
8		U	UAMMJ	U	AUUA	UU	AAU	AMMAAU	AUUUUU	
5		UUQUUAMMJUUUUAUUUUU			AAUQQ	QAMMAAUUAUUUUU		Q	QUAAUUQUU	
3		UUQUUAMMJUUUUAUUUUUQQQQQQAAUQQQQAMMAAUUAUUUUUQQQQQQUAAUUQUU								

-----  
Chart Start Date: Day #122

#### NOTES:

This graph is determined by plotting the greater of either the planetary A-index or the Boulder A-index. Graph lines are labelled according to the severity of the activity which occurred on each day. The left-hand column represents the associated A-Index for that day.

Q = Quiet, U = Unsettled, A = Active, M = Minor Storm,  
J = Major Storm, and S = Severe Storm.

#### CUMULATIVE GRAPHICAL CHART OF THE 10.7 CM SOLAR RADIO FLUX

143		-----			
140			*		
137			****		
134		*	***** *		
131		* **	***** *		
128		*****	*****	*	
125		*****	*****	*	
122		*****	*****	****	
119		*****	*****	*****	
116		*****	*****	*****	
113		*****	***** **	*****	
110		*****	*****	*****	
107		*****	*****	*****	
104		*****	*****	*****	
101		*****	*****	*****	
098		*****	*****	*****	
095		*****	*****	*****	
092		*****	*****	*****	
089		*****		*****	
086		*****		*****	
083		*****	*****		

080 | \*\*\*\*\*|

-----  
Chart Start: Day #122

# GRAPHICAL ANALYSIS OF 90-DAY AVERAGE SOLAR FLUX

-----  
132 |  
131 |\*\*  
130 |\*\*\*\*\*  
129 |\*\*\*\*\*  
128 |\*\*\*\*\*  
127 |\*\*\*\*\*  
126 |\*\*\*\*\*  
125 |\*\*\*\*\*  
124 |\*\*\*\*\*  
123 |\*\*\*\*\*  
122 |\*\*\*\*\*  
121 |\*\*\*\*\*  
120 |\*\*\*\*\*  
119 |\*\*\*\*\*  
118 |\*\*\*\*\*  
117 |\*\*\*\*\*  
116 |\*\*\*\*\*  
115 |\*\*\*\*\*  
114 |\*\*\*\*\*  
113 |\*\*\*\*\*  
112 |\*\*\*\*\*  
111 |\*\*\*\*\*  
-----

Chart Start: Day #122

## NOTES:

The 10.7 cm solar radio flux is plotted from data reported by the Penticton Radio Observatory (formerly the ARO from Ottawa). High solar flux levels denote higher levels of activity and a greater number of sunspot groups on the Sun. The 90-day mean solar flux graph is charted from the 90-day mean of the 10.7 cm solar radio flux.

## CUMULATIVE GRAPHICAL CHART OF SUNSPOT NUMBERS

-----  
147 |





40%	* * * * *										40%	* * * * *						
20%	***	***	***	***	***	***	***	***	***	***	20%	* * * * *	* * * * *	* * * * *	* * * * *	* * * * *	* * * * *	
0%	***	***	***	***	***	***	***	***	***	***	0%	* * * * *	* * * * *	* * * * *	* * * * *	* * * * *	* * * * *	
-----	---	---	---	---	---	---	---	---	---	---		-	-	-	-	-	-	-
CHANCE OF	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun		F	S	S	M	T	W	T
VHF DX	Given in 8 hour local time intervals										AURORAL BACKSCATTER							
-----	-----										-----							

## MIDDLE LATITUDES

FORECAST   Given in 8 hour local time intervals											SWF/SID ENHANCEMENT										
CONFIDENCE	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	F	S	S	M	T	W	T	F	S	S	
-----	___	___	___	___	___	___	___	___	___	___	-	-	-	-	-	-	-	-	-	-	
0%	***	***	***	***	***	***	***	***	***	***	0%	*	*	*	*	*	*	*	*	*	
20%	***	***	***	***	***	***	***	***	***	***	20%	*	*	*	*	*	*	*	*	*	
40%	***	***	***	***	***	***	***	***	***	***	40%	*	*	*	*	*	*				
60%	***	***	***	***	***	***	***	***	***	***	60%										
80%											80%										
100%											100%										
=====	===	===	===	===	===	===	===	===	===	===		-----									
100%											100%										
80%											80%										
60%											60%										
40%	**	**	**	**	**	**	**	**	**	**	40%										
20%	***	***	***	***	***	***	***	***	***	***	20%	*	*	*	*						
0%	***	***	***	***	***	***	***	***	***	***	0%	*	*	*	*	*	*	*	*	*	
-----	---	---	---	---	---	---	---	---	---	---		-	-	-	-	-	-	-	-	-	
CHANCE OF	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	F	S	S	M	T	W	T	F	S	S	
VHF DX	Given in 8 hour local time intervals										AURORAL BACKSCATTER										

## LOW LATITUDES

FORECAST   Given in 8 hour local time intervals											SWF/SID ENHANCEMENT										
CONFIDENCE	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun		F	S	S	M	T	W	T	F	S	S
-----	___	___	___	___	___	___	___	___	___	___		-	-	-	-	-	-	-	-	-	-
0%	***	***	***	***	***	***	***	***	***	***	0%	*	*	*	*	*	*	*	*	*	*
20%	***	***	***	***	***	***	***	***	***	***	20%	*	*	*	*	*	*	*	*	*	*
40%	***	***	***	***	***	***	***	***	***	***	40%	*	*	*	*	*	*				
60%	***	***	***	***	***	***	***	***	***	***	60%										
80%											80%										
100%											100%										
=====	===	===	===	===	===	===	===	===	===	===		-----									
100%											100%										
80%											80%										
60%	*	*	*	*	*	*	*	*	*	*	60%										
40%	***	***	***	***	***	***	***	***	***	***	40%										

[illegible]

NOTES:

These VHF DX prediction charts are defined for the 30 MHz to 220 MHz bands. They are based primarily on phenomena which can affect VHF DX propagation globally. They should be used only as a guide to potential DX conditions on VHF bands. Latitudinal boundaries are the same as those for the HF predictions charts.

## AURORAL ACTIVITY PREDICTIONS (02 JUL - 11 JUL)

## High Latitude Locations

	EXTREMELY HIGH											
CONFIDENCE	VERY HIGH											
LEVEL	HIGH											
-----	MODERATE	*	*									
60%	LOW	***	***	***	**	**	**	**	***	***	***	
	NOT VISIBLE	***	***	***	***	***	***	***	***	***	***	
	-----	--	--	--	--	--	--	--	--	--	--	
	AURORAL INTENSITY	Fri Eve.	Sat Twilight	Sun/Midnight	Mon/Morn.	Tue/Twilight	Wed	Thu	Fri	Sat	Sun	

## Middle Latitude Locations

CONFIDENCE LEVEL ----- 60%	EXTREMELY HIGH											
	VERY HIGH											
	HIGH											
	MODERATE											
	LOW	*	*									
	NOT VISIBLE	***	***	***	***	***	***	***	***	***	***	***
	-----	---	---	---	---	---	---	---	---	---	---	---
	AURORAL	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	
	INTENSITY	Eve.Twilight/Midnight/Morn.Twilight										

## Low Latitude Locations

[illegible]

NOTE:

For more information regarding these charts, send a request for the document, "Understanding Solar Terrestrial Reports" to: "Oler@Rho.Uleth.Ca" or to: "Coler@Solar.Stanford.Edu". This document, as well as others and related data/forecasts exist on the STD BBS at: (403) 756-3008.

Date: 1 Jul 1993 20:33:45 GMT  
From: topaz.bds.com!topaz.bds.com!ron@uunet.uu.net

To: info-hams@ucsd.edu

References <1993Jun28.161019.25628@porthos.cc.bellcore.com>,  
<feustelC9CwAz.GvK@netcom.com>, <gchristianson-300693135239@csite-kip63.kip-  
pppl.gov>

Subject : Re: NJ Tells Tandy, don't sell 800MHz scanners in NJ.

> What other state would pass a law making  
> it illegal for me to order an egg over easy in a diner? (I must be  
> protected by Big Nanny in Trenton from the danger of salmonella).

It was the next step after they made sure that the after-dinner mints  
were safe for human consumption.

-Ron

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End of Info-Hams Digest V93 #809

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